

Factors influencing the Interatrial Conduction Disorders in Geriatric Patients.

Introduction

Age-related degenerative changes in myocardial tissue in addition to other comorbidities promote the development / progression of interatrial conduction disturbances. The purpose of the study was to correlate interatrial conduction disturbances with various predisposing factors such as old age, diabetes, renal disease, ischemic heart disease and heart failure.

Methods

The study included 210 patients (170 women (79.1%), aged 78+/-7 years (65 to 94 years). We compared several parameters including age, fasting glucose levels, prevalence of chronic kidney disease, ischemic heart disease and heart failure in different stages of Bachmann's-bundle(BB) block classified by ECG analysis (paper speed 50mm/s, amplitude of 1 mv/1cm). The interatrial conduction was recognized and classified as: normal interatrial conduction (normal P-wave morphology), partial Bachmann's-bundle block (P-wave duration >120ms & notched morphology in lead II) and complete Bachmann's-bundle block (P-wave duration >120ms & biphasic morphology in lead II).

Results

Patients who presented with interatrial conduction disturbances were older and had increased fasting glucose levels. There was no direct correlation to creatinine levels, however chronic renal disease, independent from creatinine levels, showed an increased number of patients with interatrial conduction delay. There was no statistical correlation between interatrial conduction delays and heart failure as well as ischemic heart disease (patients presented borderline statistical significance).

Variable		Stage			P-value
		Normal N = 77	Incomplete BB block N = 64	Complete BB block N = 69	
Age (years):		76.2 ± 7.2	79.8 ± 7.1	78.0 ± 7.2	0.015
Glucose (mg/dl)		103.8 ± 30.9	119.4 ± 39.8	117.7 ± 32.5	0.004
CKD	Yes	4 (5.2%)	12 (18.8%)	10 (14.5%)	0.042
	No	73 (94.8%)	52 (81.2%)	59 (85.5%)	
IHD:	Yes	11 (14.3%)	16 (25.0%)	21 (30.4%)	0.060
	No	66 (85.7%)	48 (75.0%)	48 (69.6%)	
HF	Yes	8 (10.4%)	11 (17.5%)	10 (14.5%)	0.060
	No	69 (89.6%)	52 (82.5%)	59 (85.5%)	

Table 1. legend: BB – Bachmann's-bundle, CKD – chronic kidney disease, IHD – ischemic heart disease, HF – heart failure.

Conclusion

The presence of incomplete and complete Bachmann's bundle block is related to advanced age and increased fasting glucose levels. Chronic kidney disease constitutes another factor related to interatrial conduction disorders. Medical standard screening procedures should be adapted to put an emphasis on patients with chronic kidney disease and diabetes and test these patients regularly and systematically for interatrial conduction disturbances and structural atrial abnormalities with potential to result in atrial fibrillation.